

# Sensors for Building Services

# Grant

DATA LOGGING

Grant supply a wide range of sensors for the building services industry. These sensors are compatible with all Grant Squirrel data loggers. These include current and voltage transducers, air velocity transducers and carbon dioxide and light intensity sensors.

## Miniature clip-on AC current transducers (BSS 540, BSS 541, BSS 542)

Accommodates a 15mm diameter cable or a 15x17mm bus-bar  
BSS 540 accuracy is higher than BSS 541

## Clamp-on AC current transducers (BSS 542)

Accommodates a 43mm diameter cable  
Measurement range:  
For BSS 540, 0 to 25A (100A max)  
For BSS 541, 0 to 100A (200A max)  
For BSS 542, three switch selectable ranges  
0 to 250A, 0 to 500A and 0 to 1000A  
Output: 0 to 1V DC for all ranges  
Basic accuracy:  $\pm 0.25$  to  $\pm 3\%$   
Output connection: 4mm safety sockets  
Operating temperature:  $-10$  to  $+50^\circ\text{C}$   
Max. operating voltage: 650V  
Dimensions:  
BSS 540 and BSS 541  
43x23x125mm, weight 125g  
BSS 542 38x90x205mm, weight 550g

## Miniature Portable or Din Rail Mounting AC Voltage Transducer (BSS 543 and BSS 544)

Provides DC voltage signal proportional to AC voltage input, as well as offering isolation between the input and output.  
FS input Voltage: 0-240V (BSS 543) or 0-440V (BSS544)  
Output: 0 to 1V FS  
Frequency range: 40 to 60 Hz  
Operating temperature: 0 to  $60^\circ\text{C}$   
Dimensions: 98.5x22.5x75mm, weight 120g  
Power supply: self-powered  
A number of accessories such as sets of test leads and voltage probes for single or three-phase supplies are required.

## Optical Meter Reader (BSS 530)

Miniature optical reader using infra-red sensors to detect rotating disc or pointer on a standard utility meter with mechanical dials. Emits a pulsed signal for every revolution  
Output: volt-free relay contact rated 200mA @ 50V DC (normally off)  
Operating range: 5 to 30mm autofocus  
Power: external PP3 battery pack  
Dimensions: 40x35x20mm  
Attachment: Via double-sided bonding tape for temporary or permanent installation

## Air Velocity Transducer (BSS 533 and BSS 534)

Measuring ranges: 0.125 to 50m/s  
Accuracy:  $\pm 2\%$  of reading,  $\pm 0.5\%$  Full Scale  
Output: linear, 0 to 5V DC  
Temperature range: for sensor 0 to  $+93^\circ\text{C}$   
Temperature compensation range: 0 to  $60^\circ\text{C}$   
Response time: 0.2 s (tested at 7.5m/s), slower at lower velocities  
Input power: 12 to 28V DC, 350mA max  
Please note that a separate power supply is needed to power this sensor (details available on request).  
Dimensions: probe 6.4mm diameter, 300mm long, on 5m cable, electronics enclosure 80x60x126mm

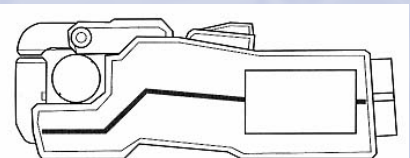
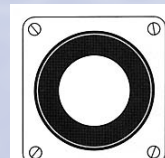
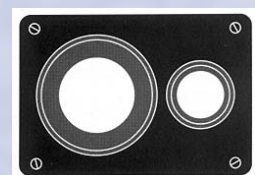
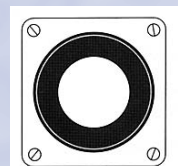
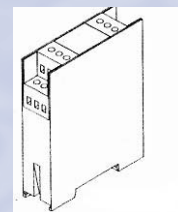
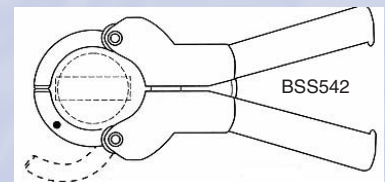
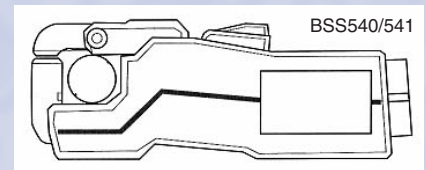
## Carbon Dioxide Sensor (BSS 535)

For indoor air quality measurements.  
Single beam, non-dispersive infra-red.  
Measuring range: 0 to 2000 ppm  
Output: 0 to 10V  
Power: 24V DC nominal, 18-30V DC  
Operating range, 300mA peak current draw (10ms), 70mA average current. Please note a separate power supply is needed to power this sensor (details available on request).  
Temperature range:  $-5$  to  $45^\circ\text{C}$   
Response time: 1 min  
Repeatability:  $\pm 1\%$ FS  
Dimensions: 80x80x35mm

## Light Intensity Sensors (BSS 531 and BSS 532)

General purpose high stability and sensitivity used for lightmeters, exposure meters etc. Use BSS 531 for measuring visible light only and BSS 532 for measuring visible and ultraviolet light.

	BSS 531	BSS 532
Measurement range:	0-1000 lux	0-1000 lux
Spectral response: (visible)	400 to 700nm	400 to 700nm
Spectral response: (uv)	---	280 to 410nm
Output:	0 to 5V	0 to 5V
Accuracy:	$\pm 5\%$ (visible)	$\pm 5\%$ (visible) $\pm 10\%$ (uv)
Dimensions:	40x50x52mm	33x52x75mm
Weight:	125g	110g
Operating temperature:	10 to $+50^\circ\text{C}$	10 to $+50^\circ\text{C}$
Typical DC power supply:	9V battery or 9V supply from mains adaptor	



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Due to our policy of continuous improvements, specifications may change without prior notice. Grant believe that all information declared is correct at the time of issue. No liability is accepted for errors and omissions.

# Grant

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**Warranty:** Equipment manufactured by Grant Instruments is warranted against faulty materials or workmanship for three years. For repairs carried out under warranty, no charge is made for labour, materials or return carriage. All non Grant manufactured products are covered by original manufacturer's warranty.

**CE mark:** All sensors bears a CE mark and meets relevant European directives.

**Quality Statement:** Grant Instruments operates a Quality Management System complying with ISO9001:2000.

It is Grant's policy to supply customers with products which are fit for their intended purpose, safe in use, perform reliably to published specification and are backed by a fast and efficient customer support service.

**Manufactured and designed in Cambridge, England.**